

REMARKS

In order to expedite the prosecution of the present application, Claims 6-9 have been canceled. Claim 9 has been canceled without the prejudice to the filing of a divisional application thereon. No new matter has been added.

Claims 7, 8 and 10-13 have been rejected under 35 USC 103(a) as being unpatentable over Muromachi et al. Applicants respectfully traverse this ground of rejection and urge reconsideration in light of the following comments.

The presently claimed invention is directed to an oyster extract which contains zinc in an amount of from 6-14% by dry weight. The zinc is combined with peptides of the oyster through the extraction process to enable the zinc content in the extract to be much higher than previously obtained. It is respectfully submitted that the prior art cited by the Examiner does not disclose the presently claimed invention.

The Muromachi et al reference discloses a whey mineral containing at least 0.8 grams per kilogram of zinc and a process for producing the same. This reference discloses that the inventive whey mineral can be combined with an oyster meat extract having a zinc content of 2 grams per kilogram. This means that the oyster meat extract disclosed in Muromachi et al has a zinc content of 0.2 wt.%. In contrast to the 0.2 wt.% zinc in the oyster extract of Muromachi et al, the presently claimed invention requires that the oyster extract contain zinc in an amount of at least 6% by dry weight. As such, the oyster extract of the present invention has at least a 30-fold increase in zinc content. Since Muromachi et al has no disclosure or suggestion as to how to increase the zinc content of the oyster extract disclosed there 30-fold, the presently claimed invention clearly is not obvious in light of this reference.

As discussed previously, the instant invention is based on the discovery that when zinc is combined with peptides contained in an oyster extract, the zinc has a much higher

bioavailability than when administered in other forms. Since zinc is an essential nutrient in human nutrition and it has been determined that there is a sub-optimal zinc level in the general population, it has been a pressing need to provide a food source with a high zinc concentration. Generally, zinc contained in foods has varying absorption rates due to various dietary factors such that only about 30% of zinc is absorbed after ingestion. The present invention provides a zinc composition having an unexpectedly high zinc concentration, an improved bioavailability and clearly is not taught by the Muromachi et al reference.

In commenting on the Declaration Under 37 CFR 1.132 of record in the present application, the Examiner states that it is not clear that the oyster extract tested is at a zinc concentration as claimed. If the Examiner will review Table 1 contained in the Declaration, the zinc-rich powder shown there has a zinc content of 76.0 mg per gram. This translates to a zinc content of 7.6 wt.% which clearly is within the currently claimed range. The Examiner additionally states that the Declaration provides inconsistent results in that the zinc-rich powder provides a lower zinc concentration in the muscle of the rats than is provided by the zinc carbonate hydroxide. Applicants wish to point out that the differences in concentration in the muscle of the rats between the zinc-rich powder of the present invention and the zinc carbonate hydroxide is within experimental error. Moreover, it is much more important that the zinc-rich powder provides a higher zinc concentration than a diet in which zinc is not added and the difference in the zinc deposition concentration is significant. Additionally, Applicants wish to point out that the deposition of zinc in the tibia is much higher than the zinc carbonate hydroxide due to the zinc-rich powder having a higher solubility and being more easily absorbed in the small intestine than zinc carbonate hydroxide. Enclosed herewith for the Examiner's benefit is an article which deals with these facts.

The Examiner has queried as to what zinc carbonate hydroxide is. Zinc carbonate hydroxide is a zinc carbonate compound, as indicated in enclosed U.S. Patent No. 5 998 327, and is commonly used as a dietary food supplement for animals to supply zinc.

The difference in zinc concentration between the oyster extract of the present invention and the oyster extract disclosed in Muromachi et al is at least a 30-fold difference. Additionally, there is no disclosure in Muromachi et al as to how one would obtain such a high zinc concentration as is contained in the oyster extract of the present invention. The differences in zinc content between the oyster extract of the present invention and that of Muromachi et al would not be considered obvious to one of ordinary skill in the art and, unless the Examiner can produce a reference which shows an oyster extract having a zinc concentration closer to that of the present invention, it is respectfully submitted that the Examiner's rejection of the claims would not be upheld on appeal.

The Examiner is respectfully requested to reconsider the present application and to pass it to issue.

Respectfully submitted,

TFC/smd


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